



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

4.5NR-10

Job Sheet 180721



Part No: 4.5NR-10

Job Qty: 4 ea

Part Name: Lock Roller Pin



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 7/12/18

Job Tracking No:

Due Date: 7/20/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: 4.5NR-10 rev.5 IPP REV:A 18.06.22 NEW ISSUE DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
90	Start up Operation	4 Ea		7/20/18	0.00	0.00	Start Up Machining-4		JB 18-08-21
120	CNC Lathe	4 pcs		7/20/18	0.50	0.40	MORI SL-154		JB 18-08-21
130	QC	4 pcs		7/20/18	0.00	0.00	QC2 Machining-5		JB 18-08-21
140	QC	4 pcs		7/20/18	0.00	0.00	QC8 Machining-5		mm 18/8/22
141	Outsource	4 pcs		7/20/18	0.00	0.00	Outsource1		CT 18-8-22
142	Outsource	4 pcs		7/20/18	0.00	0.00	Outsource15		SEP 20 2018
144	Packaging	4 pcs		7/20/18	0.00	0.00	Packaging2		SEP 20 2018
146	QC	4 pcs		7/20/18	0.00	0.00	QC6		DAS 6
150	Packaging	4 pcs		7/20/18	0.00	0.00	Packaging3-2		SEP 22 2018
160	QC21-SA	4 Ea		7/20/18	0.00	0.00	QC21		SEP 22 2018

Part Op 120 - 1-Machine as per folio FC219 FOLIO REV: _____ DWG REV: _____ 2-Deburr

Descriptions: 141 - 1-Issue P/O to Metcore ; P/O 040352 RC 50-55 2-Bead blast 3--Material type ; 01 4- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER METCORE to ship directly to GROUPE ALTECH ***
142 - -Issue P/O to Groupe Altech: P/O _____ -Nickel plate, QQ-N-290, Class 2, Grade E or F -Nickel Plate .0004-.0006 Bake after plating - Certificate of Conformity is required
150 - Identify and Stock

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
MT-O1-R0.500	Tool Steel Round Bar 0.500 dia.	12 ft (3 ea)	90-Start up Operation	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	MT-O1-R0.500	12	12	0



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CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

ifications

ould not be found.

Container No: S103919



Part: 4.5NR-10

Job No: 180721

Serial No/Batch: S103919

Revision: 5

Inspector:

Exp Date:

Instructions:

Date: 09/20/18

Plex 7/12/18 10:43 AM Dart.lajeunesse.marie

DQA:~ _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				



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Container No: S103919



Part: 4.5NR-10

Job No: 180721

Serial No/Batch: S103919

Revision: 5

Inspector:

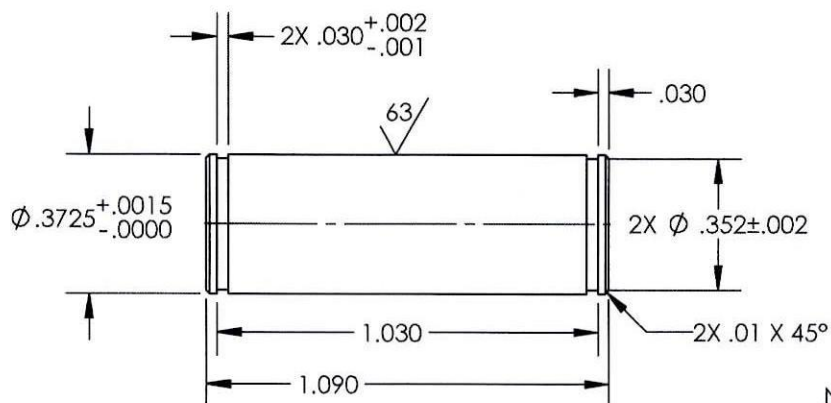
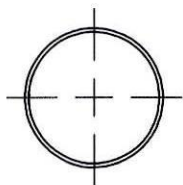
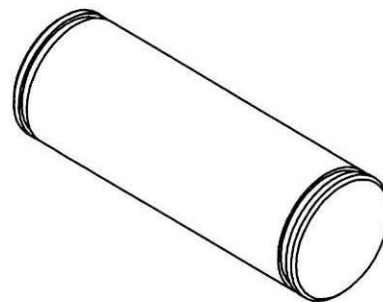
Exp Date:

Instructions:

Date: 08/21/18

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REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
3		AS DRAWN BY APICAL.	7/22/2013	JAG	
4		ADDED TOLERANCE TO SLOT WIDTH AND DIAMETER. CH'D FINISH WAS OIL STORAGE IS NICKEL PLATE .0004-.0006, BAKE AFTER PLATING PER R.W.	7/22/2013	CFS	RW
4A	14-0095	CH'D TITLE BLOCK WAS RED BARN IS DART. ADDED NOTE 2.	7/29/2014	DPD	RW
5	16-0106	UPDATED TO NEW STANDARD. CH'D MATL WAS A2 IS 01.	8/11/2016	DEW	SM



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 179828 MJS
180622

NOTES:

1. NICKEL PLATE .0004 - .0006, BAKE AFTER PLATING.
2. BAG & LABEL WITH BATCH NUMBER.

DART AEROSPACE	
TITLE LOCK ROLLER PIN	
DWG NO. 4.5NR-10	REV 5
MAT'L 01 HEAT HRC 50-55 FINISH SEE NOTE 1 SPEC	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES .XXX ± .005 FRACTIONS ± 1/8 .XX ± .01 ANGLES ± 5° .X ± .1 SURFACES = 125/✓
DRAWN BY: APICAL CHECKED: DUERFELDT OPPS APPR: ANDERSON QA APPR: LINDSAY APPROVED: MACKOVJAK	1. BREAK ALL SHARP EDGES .015 X 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING 3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009 USED ON MODEL
SCALE 2:1	DATE 5/15/1997
SHEET 1 OF 1	

ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS
			4.5NR-10	1	LOCK ROLLER PIN	01	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					



Dart Aerospace Ltd.
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K6A 1K7
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Tel (613) 632-5200

PURCHASE ORDER **PO040852**

Supplier: MEI001-VC
Metcor Inc.
560 Boul. Arthur Sauve
Saint-Eustache
QC
J7R 5A8 Canada
Phone: 450 473 1884
Fax: 450 491 5498

PO No: PO040852
PO Date: 8/27/18
Due Date: 9/14/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Tsimiklis, ChrisoulaPhone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	180721	4.5NR-10	Lock Roller Pin 1-Issue P/O to Metcore ; P/O RC 50-55 2-Bead blast 3-Material type ; 01 4- Certificate of Conformity is required ***NOTE*** DROP SHIP TO FINISHER METCORE to ship directly to GROUPE ALTECH ***	Firmed	-	9/14/18	5 pcs	0 pcs	5 pcs	\$0.01/pcs	\$0.05

5X

SEP 17 2018

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Line Item Note ** rush need asap **

[Handwritten signature]

Plex 9/12/18 3:42 PM dart.tsimiklis.chrisoula



Dart Aerospace Ltd.
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Canada

Tel (613) 632-5200

PURCHASE ORDER **PO040852**

Items											
Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
2	181423	646.9711	Blade PO to Metcor: FINISH: HEAT TREAT TO 58-62 RC ROCKWELL HARDNESS PART ARE MADE FROM AISI A2 TOOL STEEL PLEASE NOTE: DETAIL C OF C REQUIRED	Firmed	-	9/14/18	120 pcs	0 pcs	120 pcs	\$2.166666/pcs	\$260.00
Grand Total:											\$260.05

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 9/12/18 3:42 PM dart.tsimiklis.chrisoula

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC J7R 5A8
Tel: 450-473-1884 / Fax: 450-491-5498

Reçu de livraison

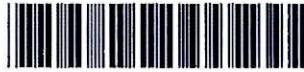
Delivery Receipt

BON DE TRAVAIL Order	EXPÉDITEUR Shipper ID	BON D'EXPÉDITION Shipper
330031	1	130561

EXPÉDITION COMPLÈTE / Shipped Complete

CLIENT /Customer 215

DART AEROSPACE
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053



LIVRÉ À /Shipped To

GROUP ALTECH
2455 ALPERN
ST LAURENT, QC H4S1N9
Ph: 613-632-5200
Fax: 613-632-1053

COMMANDE DU CLIENT Customer PO	BON DE LIVRAISON DU CLIENT Customer Shipper No.	TYPE DE MATÉRIEL Material Type	DATE DE LA COMMANDE Order Date	TRANSPORTEUR Carrier
40852		O1	8/30/2018	pick up

QUANTITÉ Quantity	No. PIÈCE Part No.	NOM DE LA PIÈCE Part Name	DESCRIPTION DE LA PIÈCE Part Description	POIDS Weight
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5 4.5NR-10
(5) 4.5NR-10
JOB 180721
15

1 BOITE DE CARTON

TYPE DE CONTENEUR Container Type	# DE CONTENEURS # Of Containers	COMMENTAIRES CONTENEUR Container Comments
BOITE DE CARTON	1	

CERTIFICAT

EMPAQUETAGE Packing	
------------------------	--

QUANTITÉ EXPÉDIÉE / Quantity Shipped : 5
POIDS EXPÉDIÉ / Weight Shipped : 0,15
QUANTITÉ RESTANTE / Quantity Remaining : 0
POIDS RESTANT / Weight Remaining : 0,00

CERTIFICAT

QUANTITÉ EXPÉDIÉE /Quantity Shipped:	5
POIDS EXPÉDIÉ / Weight Shipped :	0,15

Signature:

Date:



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
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Canada

Tel (613) 632-5200

PURCHASE ORDER **PO040946**

Supplier: GRO002-VC
Group Altech
2455 Halpern
St Laurent
QC
H4S 1N9 Canada
Phone: 514-335-3666
Fax: 514-335-3868

PO No: PO040946
PO Date: 9/6/18
Due Date: 9/21/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	180721	4.5NR-10	Lock Roller Pin -Issue P/O to Groupe Altech: P/O -Nickel plate, QQ-N-290, Class 2, Grade E or F -Nickel Plate .0004-.0006 Bake after plating - Certificate of Conformity is required	Firmed	-	9/21/18	5 pcs	0 pcs	5 pcs	\$59.00/pcs	\$295.00

5 X SEP 20 2018

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Line Item Note *rush*

Grand Total: \$295.00

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 9/13/18 2:38 PM dart.tsimiklis.chrisoula

CT.



Certificat de Conformité / Certificate of Compliance

(012608-1)

2455, Rue Halpern | Saint-Laurent | Québec | H4S 1N9
 Tel: 514-335-3666 Fax: 514-335-3868
 www.groupaltech.com

Bon de Livraison / Packing Slip

012608 - 1

Livré à / Ship to

DART AEROSPACE LTD
 1270 ABERDEEN STREET
 HAWKESBURY, ON, K6A1K7
 CANADA
 Tel.: 613-632-5200 Fax.:

Client / Customer:

DART AEROSPACE LTD
 1270 ABERDEEN STREET
 HAWKESBURY, ON, K6A1K7
 CANADA
 BUYER:

Date expédition Ship date		Créé Par Generated By	Transport / No de Compte Courier / Acc. No.	Bon de commande Client Customer Purchase Order No.					
19-Sep-2018		Aman		PO040946 ✓					
#Ligne Line#	No. de Série / # Pièce Part Number / Line Item Details	Description pièce(s)	CATG. U/M	Comm. /Ordered	Exp/ Shipped	Qté NC/ NC Qty	Qté Scrap/	À venir/ Back Order	
1	4.5NR-10 Rev. ✓	4.5NR-10 01 -E-NIC STEEL 200 [E-NICKEL STEEL 200] NICKEL PLATE .0004-.0006 BAKE AFTER PLATING CLASS 2, GRADE E OR F	E-NICKEL STEEL CH	5	5 ✓	0	0	0	

 DAs
 38
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Notes Additionnelles / Additional Notes

Épaisseur réelle
Actual Thickness
Inspecteur Qualité
Quality Inspector
Réçu par
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences.
 Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue.

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements.
 Our financial and legal responsibility will not be higher than the amount of invoice.